

IN THE CLAIMS:

Please amend the claims to read as set forth below.

01
1. (Amended Three Times) A measurement apparatus for vehicle body alignment work comprising:

an alignment table (10) to whose fastenings (11a₁, 11a₂, 11a₃, 11a₄) the vehicle is attached for the time of the alignment work,

a measurement unit (17a₁, 17a₂) of which measurement apparatus (15) can be moved in a vertical guide (15b₁, 15b₂), which vertical guide (15b₁, 15b₂) can further be moved in a longitudinal guide (15a₁, 15a₂), and which measurement unit (17a₁) is provided with a movable measurement arm (40),

wherein the measurement arm (40) comprises an articulation (41) to which a first arm part (42) is connected such that the first arm part (42) is pivoted on support of the articulation (41) with respect to the measurement arm (40), and that to the first arm part (42) is connected a second arm part (43) which is turned around its longitudinal axis (X₃₀), to which second arm part (43) a measurement head (65) is connected either directly or through an intermediate part; and

means for extending the first and second arm parts (42, 43) in the direction of a longitudinal axis (X₂₀) of the first arm part (42) such that the second arm part (43) can be displaced with respect to the first arm part (42) to different length positions;

wherein said first arm part (42) is connected to said articulation (41) by a connection assembly including a plurality of spaced holes each of the holes corresponding to a selected angular

position and ball means for receipt within said a selected one of said plurality of holes for locking said first arm (42) in a selected angular position so that said first arm part (42) can be moved to a plurality of selected angular positions and locked in a desired selected angular position; and

C1 wherein said second arm part (43) is connected to said first arm part (42) by a connection assembly including a plurality of spaced holes each of the holes corresponding to a selected rotary position and ball means for receipt within said a selected one of said plurality of holes for locking said second arm part (43) in a selected rotary position so that said second arm (43) can be rotated with respect to said first arm part (42) and locked in a desired selected rotary position.

C2 11. (Amended) A measurement apparatus for use in vehicle body alignment work when a vehicle to be aligned is in place on an alignment table and attached thereto by means of fastenings, said apparatus comprising:

a measurement unit structured and arranged to be movable within a vertical guide, wherein said vertical guide is structured and arranged to be movable within a longitudinal guide; said measurement unit having a movable measurement arm comprising a first arm part, having a first arm part longitudinal axis, pivotally connected to said measurement arm via an articulation at a first end of said first arm part, and a second arm part slidably insertable within said first arm part, having a second arm part longitudinal axis, operatively connected at a second end to said first arm part, wherein said connection between said first arm part and said second arm part is such that said second arm part is rotatable about said second arm part longitudinal axis;

a measurement head operatively coupled to a second end of said second arm part;

C² wherein said first arm part is connected to said articulation by a connection assembly including a plurality of spaced holes each of the holes corresponding to a selected angular position and ball means for receipt within said a selected one of said plurality of holes for locking said first arm in a selected angular position so that said first arm part can be moved to a plurality of selected angular positions and locked in a desired selected angular position; and

wherein said second arm part is connected to said first arm part by a connection assembly including a plurality of spaced holes each of the holes corresponding to a selected rotary position and ball means for receipt within said a selected one of said plurality of holes for locking said second arm part in a selected rotary position so that said second arm can be rotated with respect to said first arm and locked in a desired selected rotary position.

12. (Amended) The measurement apparatus according to claim 11, wherein said second arm part is structured and arranged to be slidably adjustable with respect to said first arm part longitudinal axis to different selected axial positions.

13. (Amended) The measurement apparatus according to claim 11, wherein said second arm part further comprises:

a measurement through hole formed at said second end thereof for receiving said measurement head therethrough; said through hole being structured and arranged such that when said measurement head is displaced therein, said measurement head is perpendicularly aligned with respect to said second arm part longitudinal axis.

14. (Amended) The measurement apparatus according to claim 11, wherein said articulation further comprises:

a sleeve part connected to an end of said measurement arm and being perpendicular to said first arm longitudinal axis and having a top surface and a bottom surface, said bottom surface being provided with a plurality of holes for receiving a ball therein; and

c² a backing body formed at said first end of said first arm part having a top face structured and arranged to abut said bottom surface of said sleeve part, said top face being provided with a plurality of holes for cooperating with said holes formed in said bottom surface of said sleeve part, said holes in said top surface of said backing body being structured and arranged to receive a plurality of compression springs therein, such that when said backing body is aligned and coupled with said sleeve part, said springs press said balls into said holes on said bottom surface of said sleeve part and are retained therein; whereby said first arm part is pivotable about a horizontal plane with respect to said measurement arm.

Marked-up Version of Claims as amended herein.

1. (Amended Three Times) A measurement apparatus for vehicle body alignment work[,]
comprising:

[which measurement apparatus is used in connection with] an alignment table (10) to whose fastenings (11a₁, 11a₂, 11a₃, 11a₄) the vehicle is attached for the time of the alignment work, [and] a measurement unit (17a₁, 17a₂) of which measurement apparatus (15) can be moved in a vertical guide (15b₁, 15b₂), which vertical guide (15b₁, 15b₂) can further be moved in a longitudinal guide (15a₁, 15a₂), and which measurement unit (17a₁) is provided with a movable measurement arm (40),

wherein the measurement arm (40) comprises an articulation (41) to which a first arm part (42) is connected such that the first arm part (42) is pivoted on support of the articulation (41) with respect to the measurement arm (40), and that to the first arm part (42) is connected a second arm part (43) which is turned around its longitudinal axis (X₃₀), to which second arm part (43) a measurement head (65) is connected either directly or through an intermediate part; and

[a second structure formed by the first and second arm parts (42,43) which can be extended] means for extending the first and second arm parts (42, 43) in the direction of a longitudinal axis (X₂₀) of the first arm part (42) such that the second arm part (43) can be displaced with respect to the first arm part (42) to different length positions;

wherein said first arm part (42) is connected to said articulation (41) by a connection assembly including a plurality of spaced holes each of the holes corresponding to a selected angular position and ball means for receipt within said a selected one of said plurality of holes for locking

said first arm (42) in a selected angular position so that said first arm part (42) can be moved to a plurality of selected angular positions and locked in a desired selected angular position; and

wherein said second arm part (43) is connected to said first arm part (42) by a connection assembly including a plurality of spaced holes each of the holes corresponding to a selected rotary position and ball means for receipt within said a selected one of said plurality of holes for locking said second arm part (43) in a selected rotary position so that said second arm (43) can be rotated with respect to said first arm part (42) and locked in a desired selected rotary position.

11. (Amended) A measurement apparatus for use in vehicle body alignment work when a vehicle to be aligned is in place on an alignment table and attached thereto by means of fastenings, said apparatus comprising:

a measurement unit structured and arranged to be movable within a vertical guide, wherein said vertical guide is structured and arranged to be movable within a longitudinal guide; said measurement unit having a movable measurement arm comprising a first arm part, having a first arm part longitudinal axis, pivotally connected to said measurement arm via an articulation at a first end of said first arm part, and a second arm part slidably insertable within said first arm part, having a second arm part longitudinal axis, operatively connected at a second end to said first arm part, wherein said connection between said first arm part and said second arm part is such that said second arm part is rotatable about said second arm part longitudinal axis; [and]

a measurement head operatively coupled to a second end of said second arm part;

wherein said first arm part is connected to said articulation by a connection assembly including a plurality of spaced holes each of the holes corresponding to a selected angular position

and ball means for receipt within said a selected one of said plurality of holes for locking said first arm in a selected angular position so that said first arm part can be moved to a plurality of selected angular positions and locked in a desired selected angular position; and

wherein said second arm part is connected to said first arm part by a connection assembly including a plurality of spaced holes each of the holes corresponding to a selected rotary position and ball means for receipt within said a selected one of said plurality of holes for locking said second arm part in a selected rotary position so that said second arm can be rotated with respect to said first arm and locked in a desired selected rotary position.

12. (Amended) The measurement apparatus according to claim [1] 11, wherein said second arm part is structured and arranged to be slidably adjustable with respect to said first arm part longitudinal axis to different selected axial positions.

13. (Amended) The measurement apparatus according to claim [1] 11, wherein said second arm part further comprises:

a measurement through hole formed at said second end thereof for receiving said measurement head therethrough; said through hole being structured and arranged such that when said measurement head is displaced therein, said measurement head is perpendicularly aligned with respect to said second arm part longitudinal axis.

14. (Amended) The measurement apparatus according to claim [1] 11, wherein said articulation further comprises:

a sleeve part connected to an end of said measurement arm and being perpendicular to said first arm longitudinal axis and having a top surface and a bottom surface, said bottom surface being provided with a plurality of holes for receiving a ball therein; and

a backing body formed at said first end of said first arm part having a top face structured and arranged to abut said bottom surface of said sleeve part, said top face being provided with a plurality of holes for cooperating with said holes formed in said bottom surface of said sleeve part, said holes in said top surface of said backing body being structured and arranged to receive a plurality of compression springs therein, such that when said backing body is aligned and coupled with said sleeve part, said springs press said balls into said holes on said bottom surface of said sleeve part and are retained therein; whereby said first arm part is [pivotably] pivotable about a horizontal plane with respect to said measurement arm.